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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097365,978	08/02/99	HEFTI	10001-000000

025516 HM22/0823  
SIGNATURE BIOSCIENCE, INC.  
21124 CABOT BLVD.  
HAYWARD CA 94545-1130

EXAMINER
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ART UNIT	PAPER NUMBER
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1041 1/  
DATE MAILED: 05/23/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/365,978

Applicant(s)

HEFTI, JOHN

Examiner

Minh-Quan K. Pham, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 11-14, 17, 20-25, 28, and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 11-14, 17, 20-25, 28, and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

### **DETAILED ACTION**

The amendment filed March 16, 2001, has been entered as Paper No. 8.

#### ***Claim Status***

Claims 1-5, 8, 11-14, 17, 20-25, 28, and 31-33 are pending. Claims 6-7, 9-10, 15-16, 18-19, 26-27, and 29-30 are cancelled in Paper No. 8.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Rejections under 35 USC § 112, second paragraph, are withdrawn in light of amendment presented in Paper No. 8.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Weiss (US 5,858,666) or Hollis et al. (US 5,653,939), each in view of Hollis et al. (1980), *IEEE Transaction on Microwave Theory and Techniques*, MTT-28(7):791-801. The rejection is

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maintained for claims 1-5, 8, 11-14, 17, 20-25, 28, and 31-33. The rejection is moot for claims 6-7, 9-10, 15-16, 18-19, 26-27, and 29-30 in light of claim cancellations.

#### NEW REJECTION

Claims 1-5, 8, 11-14, 17, 20-25, 28, and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckler et al. (EP 0519250) in view of Weiss (US 5,858,666).

Buckler et al. disclose a system for the determination of ligand binding reactions using microwave spectroscopy. The method uses a resonant circuit "made from silver paste fired on a dielectric substrate containing a small gap insulating region between conductors on to which the test specimen is deposited." Ligands are immobilized microparticles which reacts with the sample forming a complex. The complex is then measured in apparatus by means of microwave spectroscopy (see abstract; column 5, lines 15-37; column 11, line 9 to column 12, line 41; and examples).

Buckler et al., however, differ from the claimed invention because they do not disclose immobilization of the binding layer on the transmission line.

Weiss disclose the immobilization of ligands on transmission lines for the detection of analytes (see Figures 7-9 and 10-11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to immobilize ligands on the transmission line, as taught by Weiss, in the method of Buckler et al., because by immobilization of the ligands, the detector of Buckler et al. can be modified to detect more than one analyte, as taught by Weiss (see Weiss: column 3, lines 23-25).

***Response to Arguments***

Applicant's arguments filed March 16, 2001, have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the sample cavity of Hollis et al. (1980) forms an integral part of the multiple-port signal path and does not "retain the sample *adjacent to* the multiple-port signal path", the examiner agrees that the sample cavity of Hollis et al. (1980) forms an integral part of the multiple-port device; however, the examiner also contends that sample cavity also retains the sample *adjacent to* the multiple-port signal path. In Figure 5(d), Hollis et al. clearly show that the sample is *adjacent to* the signal path. Further, being an integral part of the signal path does not exclude the sample cavity from retaining the sample adjacent to the signal path. These two conditions are not mutually exclusive.

In addition, applicant argues that Hollis et al. (1980) disclose locating the sample at the end of the signal path which results in a single port device, not a multiple-port device as instantly claimed. The examiner is perplexed at this argument, because Figure 5(d) clearly shows a signal input port and a signal output port. Furthermore, in Paper No. 8, page 21, first paragraph, applicant admits that Hollis et al. (1980) teaches "a multiple-port (two-port) signal path". Therefore, applicant contradicts his admission that Hollis et al. (1980) teaches "a multiple-port

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(two-port) signal path” by arguing that locating the sample at the end of the signal path, as taught by Hollis et al. (1980), results in a single port device.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Quan K. Pham, Ph.D., whose telephone number is (703) 305-1444. The examiner can normally be reached on Monday to Friday, 8 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (703) 305-3399. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Minh-Quan K. Pham, Ph.D.  
May 16, 2001



CHRISTOPHER L. CHIN  
PRIMARY EXAMINER  
GROUP ~~1800~~ 1641